National Aeronautics and Space Administration

MARSHALL STAR

Serving the Marshall Space Flight Center Community

Jan. 14, 2010

2010 marks 50 years for Marshall as NASA center

By Mike Wright

Fifty years ago today, Jan. 14, 1960, President Dwight Eisenhower set the process in motion to create the NASA George C. Marshall Space Flight Center in Huntsville.

The center became operational on July 1, 1960, and was dedicated on Sept. 8, 1960. However, the steps toward the center's creation began on Jan. 14. On that day, the president officially informed Congress that he planned to transfer the Development Operations Division of the Army Ballistic Missile Agency in Huntsville to NASA.

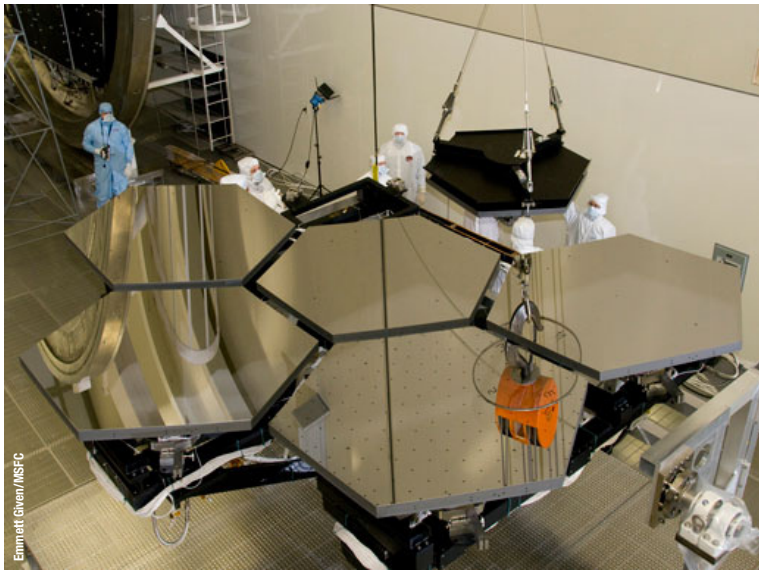
In his message to Congress, Eisenhower said he had recently reviewed "the needs and requirements" of NASA and the Department of Defense including the space agency's "responsibility for the nation's program of space exploration" and the Department of Defense's responsibility for the "development and operation of space vehicles for defense purposes."

Eisenhower believed that both agencies needed launch vehicles. However, the question involved which agency would have responsibility for "boosters for space vehicles greatly exceeding the thrust of any boosters now available." Eisenhower favored

Visit Inside Marshall to view the president's transfer plan and other documents related to creation of the Marshall Center.

*See **50 years** on page 5*

Mirror testing at NASA breaks superstitious myths



Emmett Given/MSFC

Six of the 18 James Webb Space Telescope mirror segments are being prepped to move into the X-ray and Cryogenic Facility at the Marshall Center.

By Kim Newton

In ancient mythological times, reflective surfaces like shiny metals and mirrors were thought to be magical and credited with the ability to look into the future. NASA is using mirrors to do just the opposite – look into the past.

Fast forward a couple of centuries from ancient time and myths to find NASA is developing a primary mirror, 21.3 feet in diameter, for use on the James Webb Space Telescope in a very different way – to tell us about our beginning in the universe and how the first galaxies formed. The primary mirror will serve as the telescope's eye and peer through dusty clouds to see stars forming planetary systems, connecting the Milky Way to our own solar system.

Handling delicate space hardware holds no superstitious myths for NASA, but it's still a delicate task that requires careful preparation. On Jan. 8, six of the 18 Webb telescope mirror segments will be moved into the X-ray and Cryogenic

*See **Webb telescope** on page 5*

Endeavour rolls out to launch pad at Kennedy

Space shuttle Endeavour arrived at Launch Pad 39A at NASA's Kennedy Space Center, Fla., on Jan. 6, bringing it one step closer to a targeted Feb. 7 launch. Commander George Zamka and five crew members will deliver to the International Space Station a third connecting module, the Tranquility node, and a seven-window cupola module to be used as a control room for robotics. The 13-day mission, designated STS-130, will feature three spacewalks.

NASA honors ATK Space Systems as Large Prime Contractor of Year

By Rick Smith

The Marshall Space Flight Center's pick for large prime contractor of 2009 – ATK Space Systems of Magna, Utah – also has been honored by NASA with the agency-wide award. NASA named the company its large prime contractor of the year during the recent NASA Small Business Symposium in Bethesda, Md.

The honor recognizes the company's outstanding small business program, and its support for – and advocacy of – the Ares I first stage element project and the space shuttle solid rocket motor contract.

ATK's small business office also was recognized for its role in organizing and structuring the Marshall Prime Contractor Supplier Council, founded in 2003 to promote and strengthen diversity for optimum performance among Marshall prime contractors' subcontracting programs.

"We are honored to receive this prestigious award for the work ATK does to engage small businesses in our core programs and help them succeed," said Mike Kahn, executive vice president of ATK Space Systems at its Utah headquarters.

Among the company's 408 suppliers are 289 small businesses with contracts totaling $121 million.

"It's the goal of the Marshall Center's Small Business Office to promote the critical value brought to NASA's mission by small businesses and subcontractors nationwide," said Marshall small business specialist David Brock, who leads the Small Business Office in the center's Office of Procurement. "In 2009, ATK Space Systems made outstanding advances in helping this cause, furthering vital programs and projects central to the work of the Marshall Center and NASA."

ATK was chosen for the agency award from among companies nominated by each of NASA's field centers. The winner was chosen by a review panel of small business program managers and industry partners at NASA Headquarters in Washington.

This is the second consecutive year that Marshall's large prime contractor award recipient also was honored by the agency. In 2008, The Boeing Company was awarded both the Marshall Center and NASA large prime contractor awards.

For more information about Marshall's Small Business Office, visit http://www.nasa.gov/centers/marshall/about/business.html. For more about NASA's Office of Small Business Programs, visit http://osbp.nasa.gov.

Smith, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Complimentary bus program for after-school care now available for Redstone team members

The Redstone Child, Youth and School Services is partnering with several local schools this year to provide free transportation to Redstone Arsenal's after-school programs.

The service now has a fleet of buses to transport children to School Age Services and the Youth Center. In order for a family to be eligible for this nationally accredited service, a family member must work on Redstone as a soldier, government civilian or contractor.

Accredited by the national Afterschool Alliance, the service will provide children with homework assistance, a computer lab, recreation, crafts and snacks.

Students in kindergarten through fifth grade may attend School Age Services where monthly fees are based on family income. Students in sixth through 12th grades may attend the Redstone Youth Center free, which includes use of a homework room, transportation, a computer lab, recreation programs and daily snacks. Both School Age Services and youth services are excellent facilities with a trained, background-cleared staff.

Child, Youth and School Services are currently picking up at the following Madison County school locations: Legacy Elementary, Endeavor Elementary, Monrovia Elementary, West Madison Elementary, Madison Elementary, Providence Elementary, Harvest Elementary, Sparkman Middle, Westlawn Middle, Monrovia Middle, Sparkman Ninth Grade Academy and Sparkman High School.

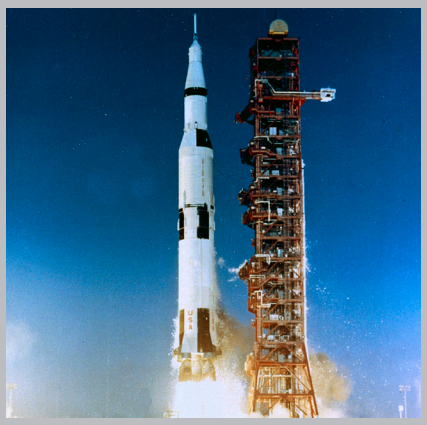
In February, the service is extending to the Mountain Gap, Chapman and Weatherly school areas of Huntsville. As the service increases its fleet, more schools will be included. If a school is not listed, contact the service to request that it be considered for eligibility.

Please call Child, Youth and School Services Central Enrollment at 876-3704 to register your child today. For more information, visit http://www.redstonemwr.com/family/child_&_youth/centralenrollment.html.

Space & Rocket Center seeks input from original Saturn V members

The U.S. Space & Rocket Center is compiling a database of Saturn V team members who worked on the historic Saturn V rocket program, which propelled the first Americans to the moon in the 1960s and early 1970s.

If you or a member of your family worked on the program, please go online at https://register.spacecamp.com/memname and fill out the information form. At this Web site, you can also access a list of registered Saturn V team members.



If you would prefer to fill out a hard-copy document, please e-mail rebeccas@spacecamp.com and include your mailing address or call 721-5409.

The U.S. Space & Rocket Center is committed to preserving the legacy of those who took lunar travel and exploration from fantasy to reality. Thank you for helping the center document and preserve this legacy.

Recycle old telephone books; deadline is Jan. 29

Recycling containers for old telephone books have been placed in foyers and lobbies throughout the Marshall Space Flight Center.

Please place phone books in the appropriately labeled containers. The deadline for recycling is Jan. 29.

For additional information on Marshall's recycling program, please visit http://recycling.msfc.nasa.gov.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, Jan. 21, is 4:30 p.m. Thursday, Jan. 14.

Miscellaneous

Workout steps, video, workout information, $25. 722-9535

Sofa and loveseat, tan/cream/light brown stripes, eight pillows, $550. 337-2534

Large beige recliner/rocker/massage chair, $100. 536-5132

Eight Michelin tourist guides, 11x5 inches, $5 -$8 singles, $35 all. 881-5437

Longaberger cake basket, 12inces by 12 inches, lifter, print fabric liner, medium stain, $40. 837-6776

Casio keyboard and stand, model CTK-551, $95; AbLounger2, $25. 417-7455

Dark blue recliner, regular size, $75; Bombay Company decorative mirror, black frame, $50. 457-5173

Mahogany-colored desk, hutch, pull-out key board drawer, chair, $150. 479-4926

Aqua-Pure water filter system, less than 800 gallons used out of 2,000 gallon maximum, $50. 650-2525

Queen size inflatable mattress, attached stand to elevate it, $100. 882-3895

Unopened Nintendo DSI, black, $155. 755-6404

Kitchenaid dishwasher, $100; refrigerator, $75; OTR microwave, $100; Whirlpool oven, white, $50; all, $250. 309-0077

Rocky Mountain Optics 4X32 gun scope, $15; PaintBall auto loader, $10; Paintball full mask, $10. 527-0110

Vehicles

2010 Toyota Camry LE, white, sunroof, XM radio with Bluetooth, 4k miles, make offer. 497-3311

2008 Honda Odyssey EX-L, MP3/Multi CD, sunroof, leather, 18k miles, $26,900. 714-3769

2005 Dodge Quad Cab Laramie 4x4, heated leather, sunroof, hemi, 84k miles, $15,000. 658-4733

2000 Toyota Sienna minivan, 112k miles, $4,200. 417-1957

1998 Toyota Camry LE, champagne, power windows and locks, maintenance records, 128k miles, $3,900. 880-9025

1997 Ford Taurus, everything works, $2,200. 931-307-9436

1995 Jeep Grand Cherokee, gray, 199k miles, $1,500. 541-0166

1992 GMC diesel pickup truck, white, 150k miles, $3,500 or will trade for tractor. 379-4010

1989 Ford Xplorer Motor Home, 116k miles, sell or trade for small truck like Toyota. 609-8882

1985 Ford F-150, 4X4, hunter green, tan interior, chrome wheels, new engine/tires, $2,950. 259-1523

1982 Landcruiser, brown, new tires, some rust on exterior, 165k miles, $3,450. 658-8241

Wanted

Motorcycles to repair, HD or metric, certified HD technician. 430-9667

Gently used soccer jerseys, shorts and shoes for mission trip to Central America. 828-1234

Shuttle Buddies to meet Jan. 25

The Shuttle Buddies will meet at 8:30 a.m. Jan. 25 at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757.

Webb telescope *Continued from page 1*

Facility, or XRCF, at the Marshall Space Flight Center to eventually experience temperatures dipping to a chilling -414 degrees Fahrenheit to ensure they can withstand the extreme space environments.

When the primary mirror is assembled in space, it will include three different shapes of mirror segments: six are "A" segments, six are "B" segments and six are "C" segments. This upcoming test in the XRCF will collect data from all three sizes – A, B and C– a first for these in the cryogenic facility. This test will also include the engineering development unit, the first primary mirror segment of the Webb telescope that has met flight specifications at ambient temperatures.

"By the time testing in the XRCF concludes in 2011, all 18 flight segments will have been through multiple measurements while experiencing the extreme temperatures of space," said Helen J. Cole, James Webb Space Telescope activities project manager at Marshall. "This process has been six years in the making and we're excited that we can support the Webb telescope development with our world-class cryogenic test facility."

Marshall's X-ray and Cryogenic Facility is the world's largest X-ray telescope test facility and a unique, cryogenic, clean room optical test location. The test chamber takes approximately five days to cool a mirror segment to cryogenic temperatures. As this cooling takes place, engineers will measure in extreme detail how the shapes of the mirrors change, simulating how they'll react to space temperatures.

"This is a tremendously important milestone to the Webb telescope project that bodes well for both our future mirror manufacturing schedule and for the potential performance capabilities of the telescope," said Lee Feinberg, James Webb Space Telescope Optical Telescope element manager at the Goddard Space Flight Center in Greenbelt, Md.

Northrop Grumman Corp. in Redondo Beach, Calif., is leading the design and development effort for Goddard. Mirror manufacturing began six years ago, led by Northrop Grumman's principal optical contractor Ball Aerospace in Boulder, Colo. Brush Wellman in Elmore, Ohio, made 21 500-pound hexagonal mirror blanks from beryllium, an extremely strong, lightweight metal. Axsys Technologies in Cullman machined the backside of the beryllium blanks and chemically etched them into an isogrid pattern that reduced mirror mass by 92 percent, from 553 pounds to 46 pounds. The front side of the mirror blank was machined to prep the optical surface for high precision grinding, polishing and testing, which is being done by SSG-Tinsley in Wilmington, Mass. The mirror segments have undergone a series of polishing and cryogenic testing cycles. Ball incorporates the mirrors into optical assemblies, which are mounted on the telescope structure.

The James Webb Space Telescope is the next-generation premier space observatory, exploring deep space phenomena from distant galaxies to nearby planets and stars. Webb will give scientists clues about the formation of the universe and the evolution of our own solar system, from the first light after the Big Bang to the formation of star systems capable of supporting life on planets like Earth. Expected to launch in 2014, the telescope is a joint project of NASA, the European Space Agency and the Canadian Space Agency.

Newton is a public affairs officer in the Office of Strategic Analysis & Communications.

50 years *Continued from page 1*

NASA since he saw “no clear Department of Defense requirement for such very large boosters.” As part of his message to Congress, the president added, “For this reason, I assigned sole responsibility for the development of space vehicle boosters of very high thrust to NASA last November.”

On Jan. 14, however, Eisenhower addressed what he called the “pertinent arrangements” for NASA to carry out its mission. “This can be done by transferring to NASA the Development Operations Division of the Army Ballistic Missile Agency and certain supporting personnel.” Unless Congress objected the transfer plan would become effective in 60 days.

On the local level, the Huntsville Times predicted the transfer plan would “provide jobs for Dr. Wernher von Braun [the Marshall Center's first director] and more than 4,800 other Army employees” who would join NASA. In addition, the newspaper stated, “NASA would receive title to more than 86 million dollars worth of buildings, land and equipment at Redstone Arsenal, plus 14 million dollars worth to be shared with the Army at Cape Canaveral, Fla.”

In the months that followed Eisenhower’s Jan. 14 transfer plan, Congress held hearings. By mid-March, Congress had agreed to the plan and the new NASA field installation was officially named the George C. Marshall Space Flight Center.

In July, those Army employees who had decided to join NASA were officially sworn in as NASA employees. In September, the president traveled to Huntsville where he officially dedicated the new NASA center as the “George C. Marshall Space Flight Center” in honor of his fellow World War II military leader, Gen. George C. Marshall.

Von Braun would serve as director of the new field center, providing the launch vehicle needed to launch the first human into space and the first humans to the lunar surface as well as launch vehicles and scientific expertise to NASA far into the future.

Wright is the Marshall Center historian in the Office of Strategic Analysis & Communications.

At Alabama A&M University High School Senior/NASA Day

3,800 students from 16 states learn about NASA's mission

Doug Stoffer/MSFC

Jonathan Pettus, center, director of the Marshall Space Flight Center's Office of the Chief Information Officer, gets the football game under way during the Alabama A&M University High School Senior/NASA Day. Pettus tossed the opening coin for the game between Huntsville's Alabama A&M and Mississippi Valley State University in Itta Bena. Charles Scales, third from left, NASA associate deputy administrator, was on hand to greet students. The Marshall-sponsored event is held annually at Alabama A&M to encourage students to pursue careers in technical fields. Thirty-five Marshall team members also took part in the event, staffing exhibits and sharing information about NASA's mission and educational and career opportunities with about 4,000 students from Alabama, Arizona, California, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Mississippi, Missouri, New York, Ohio, Tennessee, West Virginia and Wisconsin. Marshall's Office of Diversity & Equal Opportunity and the Academic Affairs Office in the Office of Human Capital organized the event.

Volunteers needed for NASA Great Moonbuggy Race

The Marshall Space Flight Center is seeking volunteers to support the 17th annual NASA Great Moonbuggy Race on April 9-10 at the U.S. Space & Rocket Center in Huntsville.

Volunteers may sign up for morning or afternoon shifts. Positions include obstacle judging, scorekeeping and score reporting, pre-race qualification and starting line and finish line judging. Each registered volunteer will receive lunch and a moonbuggy T-shirt. To sign up, go to https://moonbuggy-volunteer.msfc.nasa.gov/index.cfm. For more information, e-mail Karla Miller at karla.i.miller@nasa.gov.

Moonbuggy teams design, build and race inventive, lightweight vehicles based on NASA's historic Apollo-era lunar rover, competing on a grueling half-mile course. Last year, the race drew 68 student teams from high schools, colleges and universities in 20 states, Puerto Rico, Canada, Germany, India and Romania.

Watch the Marshall Star for more news about the Great Moonbuggy Race, or visit http://moonbuggy.msfc.nasa.gov.

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